

From: [Miano, John \(DEP\)](#)
To: [Casey, Carolyn](#)
Cc: [Wainberg, Daniel](#)
Subject: Beverly, 3-610, 3-14836, United Shoe Machine, Daycares Vapor Intrusion
Date: Thursday, August 25, 2016 10:46:12 AM

Hi Carolyn,

I left you a voice message in response to Dan's phone message to me yesterday.

Brief answers to the two questions posed in your email (pasted below):

- An AUL restricting daycare/schools in the buildings where there is petroleum vapor intrusion at levels above MassDEP indoor air Threshold Values, is an option under the MCP.
- I can find no MassDEP record of a condominium development project on the USM site(s), which have Release Tracking Numbers 3-610 and 3-14836.

Please contact me if you wish to discuss further.

Regards,

Jack

John F. Miano

Chief, Site Management Section

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MassDEP e-newsletter: mass.gov/dep/public/publications/enews.htm

MassDEP web site: mass.gov/dep

From: Casey, Carolyn [mailto:Casey.Carolyn@epa.gov]

Sent: Wednesday, August 24, 2016 9:10 AM

To: Miano, John (DEP)

Cc: Wainberg, Daniel

Subject: USM/Cummings Beverly

Are you available to talk with Dan and I today? We are available before 2:00 today. Should not take long. ½ at the most.

We met with the reps from Cummings properties about the former USM property in Beverly yesterday about the order. One more of the schools/day care facilities is either vacated or plans to in Oct. They were not sure. This is suite 157J, Futures Behavior, where we have the most data and concern at this point.

They asked if reverting back to original AUL with no daycare/schools would be acceptable. Just one option they want to consider. We wanted DEP's opinion before we provide any feedback.

Not sure how this will work with the new condo development they have nearly built on the southwest corner of the property. I will look at the 2008 AUL amendment to see what eval they did for 950. Was just a lot (paved or soil?) at the time so any soil gas sampling may not be relevant.

Do you have any new information about the construction of the condos, including any VI eval or vapor barrier being installed? They did not have anything to offer wrt info about this new construction except they are about ½ sold. I will also check DEP online shortly. They did mention a 2016 AUL amendment but it does not likely include and data. They said it was for changing the footprint of the building only since they originally planned for a hotel/conf space. It should also include info about all the previous amendment per DEP's new requirements.

Thanks

Carolyn

Carolyn J. Casey

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From: Miano, John (DEP)

Sent: Tuesday, February 23, 2016 3:23 PM

To: Casey, Carolyn

Cc: Johnson, Stephen (DEP); Friedmann, Andrew (DEP)

Subject: RE: ORD Engineering Issue Paper on Passive Sampling Published by EPA

Hi Carolyn,

I have looked at passive samplers several times over the past decade, and each time there is a question about the variability between duplicate samples. As your attached document references, there are several studies of this issue. Some show fairly good correlation and some do not. The cause of the variability in the passive sampler results may be due to uncertainty in the sampling (diffusion) rate of the passive samplers.

There may be less uncertainty in canister grab sample results for soil vapor, and, canister 24 hour samples for indoor air. And, that is what MassDEP recommends.

Based on all the evaluation that I have done on this case, it appears that the lines of evidence indicate that vapor intrusion is likely, at least partly, due to petroleum vapor contamination beneath Building 100. Therefore, unless an indoor source was found, rather than continued periodic indoor air sampling, I would recommend, indoor air filtration in the children's classrooms, and an evaluation of the feasibility of a more long term approach such as sub-slab depressurization.

Lines of evidence supporting the likelihood that the indoor air levels of APH in Building 100 are from subsurface vapor intrusion include:

- APH chromatograms of soil vapor are very similar to APH chromatograms of indoor air;
- All indoor air samples collected from 2012 to 2015 have levels in indoor air exceeding MassDEP Residential Threshold Values;
- Nine of ten indoor air samples collected from 2012 to 2015 have levels in indoor air exceeding MassDEP Commercial Threshold

Values;

- During sub-slab soil vapor collection in March 2015, a petroleum odor was found to be emanating from sub-slab soil vapor core SG-1, and was documented in the FSL March 2015 sampling Report;
- Sub-slab soil vapor APH levels are present at Building 100, (SG-4, C9-C18 max = 3700 ug/m3);
- Several gasoline storage tanks were formerly located in the vicinity of Building 100;
- Historic groundwater testing results by gas chromatograph identified mineral spirits and gasoline in GSB201-OW. This well was located near the former gasoline USTs in the vicinity of Building 100, and the Chip Shed operations; and
- There is a lack of documentation of any indoor source of APH contamination.

Regards,

Jack

John F. Miano

Chief, Site Management Section

Bureau of Waste Site Clean-up

From: Miano, John (DEP)

Sent: Tuesday, October 20, 2015 3:06 PM

To: Casey, Carolyn

Subject: RE: Beverly, 3-610, 3-14836, United Shoe Machine, Daycares Vapor Intrusion

Hi Carolyn,

I have reviewed the chromatograms in the data packages that you sent. Attached you will find a memorandum describing the results of my review.

Thanks for sending the information.

Jack

From: Miano, John (DEP)

Sent: Monday, July 13, 2015 11:10 AM

To: 'Casey, Carolyn'

Cc: Johnson, Stephen (DEP)

Subject: RE: Beverly, 3-610, 3-14836, United Shoe Machine, Daycares Vapor Intrusion

Hi Carolyn,

Regarding the assessment of the vapor intrusion pathway at the Building 100 daycares. I have discussed the lines of evidence information (pasted below, and pics attached) with Steve, and he asked that I request, "an examination/comparison of the chromatograms". Steve indicated that this case is not clear-cut, and review of the chromatograms would be an essential element in our decision with respect to whether an NOR might be issued. If such an evaluation of the chromatograms was already conducted perhaps you could share that with us. If not, could copies of the indoor air sample chromatograms, and the QA/QC standard chromatograms be sent to MassDEP? Steve also indicated that we would not object if EPA wishes to issue an Order or take any other action they deem appropriate.

Regards,

Jack

John F. Miano

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Lines of Evidence for APH Vapor Intrusion at Building 100.

Groundwater

Groundwater sampling at this facility appears to be limited, based on our data evaluation of this site earlier this year. A test pit at the Chip Shed documents petroleum contamination. (see attached boring log). Historic gasoline USTs are located near Building 100 (see attached Plan).

Indoor sources

Not determined

Outdoor Air Data

Outdoor levels for the APH fractions were all less than 15 ug/m3 in March 2015.

Indoor Air Data

See attached Plan showing sampling locations in 2015

Indoor air sampling data at daycares below.

Building 100 Data Table, Units = micrograms per cubic meter

ID>>	S-157-J	S-157-J	S-157-J	S-157-J	S-157-J	S-157-J	S-157-J.1	S-157-J.1	S-157-J.2	S-157-J.2	Sub-Slab Vapor Max
Date>>>	9-20-12	2-4-13	2-7-14	2-7-14-D	3-6-15	3-6-15-D	2-7-14	3-6-15	2-7-14	3-6-15	3-6-15
Location	Bright Horizons Children Center	Bright Horizons Children Center	Bright Horizons Children Center	Bright Horizons Children Center	Bright Horizons Children Center	Bright Horizons Children Center	Futures Behavior Therapy Center	Futures Behavior Therapy Center	Futures Behavior Therapy Center	Futures Behavior Therapy Center	Building 100
C5-C8 Aliphatic Fraction	320	41	66	53	38	<12	58	<12	55	14	1100
C9-C12	190	200	230	270	130	140	270	120	270	110	3700

Aliphatic Fraction											
C9-C10 Aromatic Fraction	61	160	61	72	45	51	71	46	74	43	340
Risk Commercial	0.86	1.00	0.62	0.70	0.40	0.40	0.70	0.35	0.71	0.34	

Indoor Air Threshold Values:

C5-C8 Aliphatic Fraction = 58 ug/m3 (residential), 330 ug/m3 (commercial)

C9-C12 Aliphatic Fraction= 68 ug/m3 (residential), 220 ug/m3 (commercial)

C9-C10 Aromatic Fraction= 10 ug/m3 (residential), 44 ug/m3 (commercial)

Sub-slab Residential Screening Values:

C5-C8 Aliphatic Fraction = 4100 ug/m3

C9-C12 Aliphatic Fraction= 4800 ug/m3

C9-C10 Aromatic Fraction= 700 ug/m3

Soil Vapor Data

Building 100 - 24 Hour Sub-Slab APH Levels ($\mu\text{g}/\text{m}^3$)			
	C5-C8 Aliphatics	C9-C12 Aliphatics	C9-C10 Aromatics
Sub-Slab Screening Value	4100	4800	700
		SVP100-12 (West)	
2/27/2008	132	74	<50
		SVP100-23 (East)	
2/27/2008	194	147	<49
		SG-1 Suite 157	
3/6/2015	50	1900	340
		SG-2 Suite 157	
3/6/2015	48	30	<10
		SG-3 Suite 157	
3/6/2015	15	54	<10
		SG-4 Suite 157	
3/6/2015	1100	3700	11

From: Miano, John (DEP)

Sent: Thursday, July 02, 2015 1:40 PM

To: 'Casey, Carolyn'

Cc: Johnson, Stephen (DEP)

Subject: Beverly, 3-610, 3-14836, United Shoe Machine, Daycares Vapor Intrusion

Hi Carolyn,

In your July 1, 2015 email (below), you asked for some feedback on the total risk comment you made in your "Attachment V" document, which was:

"Due to the sensitive receptors being evaluated, ensure that all risk assessment calculations in all areas being evaluated include total risk from all detected constituents."

Here is my feedback: An MCP risk assessment estimates the risks associated with the contamination at the site. So, I would note that MassDEP does not require that risk from exposure be estimated for any chemicals in indoor air that are known to be from an indoor source or outdoor air source.

In case you did not see it, the attached site plan is Figure 11 from a 1991 H&A report. The locations of historic gasoline storage tanks near Building 100 are highlighted in blue. So, in addition to the T17 gasoline tank that you note in your July 1st email, gasoline tanks T16, T15, and T32 were also located near Building 100. Also, note the naphtha tanks adjacent to Building 600. These former tanks are potential sources of the petroleum in soil vapor.

To gain an understanding of the risk posed by petroleum fractions in indoor air, I prepared the table below to show the risk from petroleum fractions for each of the samples collected in Building 100 from 2012 to 2015. The risk to employees (commercial exposure timeframes) ranges from 0.34 to 1.0 Hazard Index (MassDEP Hazard Index Limit = 1.0).

Building 100 Data Table, Units = micrograms per cubic meter

ID>>	S-157-J	S-157-J	S-157-J	S-157-J	S-157-J	S-157-J	S-157-J.1	S-157-J.1	S-157-J.2	S-157-J.2	Sub-Slab Vapor Max
Date>>>	9-20-12	2-4-13	2-7-14	2-7-14-D	3-6-15	3-6-15-D	2-7-14	3-6-15	2-7-14	3-6-15	3-6-15
Location	Bright Horizons Children Center	Bright Horizons Children Center	Bright Horizons Children Center	Bright Horizons Children Center	Bright Horizons Children Center	Bright Horizons Children Center	Futures Behavior Therapy Center	Futures Behavior Therapy Center	Futures Behavior Therapy Center	Futures Behavior Therapy Center	Building 100
C5-C8 Aliphatic Fraction	320	41	66	53	38	<12	58	<12	55	14	1100

C9-C12 Aliphatic Fraction	190	200	230	270	130	140	270	120	270	110	3700
C9-C10 Aromatic Fraction	61	160	61	72	45	51	71	46	74	43	340
Risk Commercial	0.86	1.00	0.62	0.70	0.40	0.40	0.70	0.35	0.71	0.34	

Regards,

Jack

John F. Miano

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MassDEP web site: mass.gov/dep

From: Casey, Carolyn

Sent: Wednesday, July 01, 2015 4:01 PM

To: 'Miano, John (DEP)'

Subject: FW: USM/Cummings

Hi Jack, Hope all is well. Based on the conference call I had with Craig Ziady and Bruce Hoskins and the obvious disagreement on the site conditions and investigation results, I started to put together an order for investigation at USM. It was premature because I really need DEP to be in agreement that an order makes sense. We would issue a 3013 order that would get us the further investigation we need.

Attached is a file (attachment V) with some modifications to the conf call prep notes that you sent me. As I had mentioned when we met, the gas station tanks were not in the area of concern (S-157 J) so there is some redline and strike out to correct that. Also wanted some feedback on the total risk comment and any others in the attached document. This would be one of several attachments to the order if we go that way. Previous comments would also be attached, specifically to highlight comment that have yet to be addressed. Further, our VI guidance just came out and although I have not had a chance to read through it I do believe the comment about total risk is consistent with the new guidance. I may have further additions to these comment before sending the order or simply sending these as comments if DEP does not agree on an order. And if we do issue and order, obviously, we can share it with for your review and input before sending if you'd like.

There were 2 tanks in the area of S-157 J (T17 5k gallons gasoline and T19 1k gallons diesel) and there there is no documentation that they were removed but the 1991 Phase II documented that they were still in use in 1991. An email from Cummings (attached) states that they have no documentation on removal. The Haley and Aldrich Report (1991 Phase II) indicates a few test pit soil samples and a well point near each tank with one GW sample but that's it. Nothing really detected. I think further investigation of these tanks is warranted.

Beside the day care issue, I really don't know how I can sign off the migration of contaminated groundwater under control environmental indicator without groundwater data. We have a few options. Have the DEP fill out the EI if you believe there is no GW issue or include further GW evaluation in the order.

My supervisor, Dan Wainberg, said he could talk to Pat (or her replacement if she left) or he could talk to Paul Locke if we think that makes more sense.

Hope you have a safe and fun holiday weekend.

Thanks

Carolyn

From: Casey, Carolyn

Sent: Tuesday, June 02, 2015 3:33 PM

To: 'Miano, John (DEP)'

Subject: notes from USM/Cummings conf call

Carolyn J. Casey

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